(Bischoff Collection), 1 specimen; Iowa (Wickham), 1 specimen; Pullman, Washington (J. F. Clarke), 1 specimen.

Type: A male, in Canadian National Collection.

Paratypes: 9 in Canadian National Collection; 9 in U. S. National Museum Collection, Cat. No. 43532.

The elytral vestiture varies considerably, showing a tendency toward the development of a transverse band beginning on suture at basal third and extending laterally either at right angles or obliquely backward to connect with spot on seventh interval. An irregular marmoration of the surface is conspicuous in well preserved specimens. The ocular lobe, a noteworthy character in this genus, varies from a feeble to a fairly well defined form, though never strongly developed; the lobe covers about three-fourths of the eye with rostrum in position of rest.

Properly mounted specimens of this species should be recognizable by the longer beak, narrowly separated fore coxae, presence of feeble ocular lobes, rugosely sculptured shelf of second ventral segment, better development of denticles on ninth interval of elytra, and the exceedingly minute tooth on tarsal claws. The last named character is difficult to see with less than about 40 magnifications. The upper eye margin is not so much elevated above head surface as in *cretura* and *obscura*. When the three species are compared in series, *longirostris* is seen to be distinctly the smallest.

BOTANY.—*Nine new American Asteraceae.*[1] S. F. Blake, Bureau of Plant Industry.

This paper contains descriptions of nine new species of Asteraceae, of which one is from Utah, two are from Mexico and Central America, and six are from South America. Several transfers of names and new names and two new varieties are also included.

Vernonia calderoni Blake, sp. nov.

Sect. *Eremoseos;* frutex; rami tomentosi glabrescentes; folia oblongo-ovata v. elliptica majuscula supra mox glabrata subtus laxe griseo-tomentosa; capitula parva 5-flora in axillis glomerata; involucrum dense tomentosum; achenia 5–6-costata dense breviterque pilosa.

Shrub 3 m. high; branches somewhat zigzag; leaves alternate; petioles thick, gray-tomentose, about 4 mm. long; blades 7–12 cm. long, 3–5 cm. wide, obtuse or acutish, apiculate, at base cuneate, remotely and obscurely callous-denticulate, papery, above dotted with sessile shining glands, glabrate except along costa, beneath thinly and somewhat floccosely but persistently tomentose and gland-dotted, featherveined, the lateral veins 8–10 pairs, prominulous beneath, the veinlets reticulate beneath; heads short-pedicelled or subsessile, crowded in axillary glomerules 1.5-2 cm. thick, these confluent at tips of stem and the short branchlets; involucre about 5 mm. high, strongly graduate, about 7-seriate, the phyllaries broadly triangular-ovate to lance-oblong and

[1] Received May 28, 1931.

(innermost) nearly linear, densely tomentose and somewhat gland-dotted, obtuse, the innermost acutish, deciduous; corollas about 4.5 mm. long; achenes 3 mm. long; pappus whitish, the outer of linear squamellae about 1.5 mm. long, the inner of aristiform barbellate bristles 4.5 mm. long.

SALVADOR: Sierra de Osicala, Dept. Morazán, April 1929, *Salvador Calderón* (type No. 1,406,895, U. S. Nat. Herb.; dupl. in herb. Field Mus.).

A species combining the inflorescence and achenes of *Vernonia standleyi* Blake with the leaves of *V. leiocarpa* DC.

Lepidophyllum phylicaeforme var. **resinosum** (Walp.) Blake.

Vernonia phylicaeformis var. *resinosa* Walp., Nov. Act. Acad. Caes. Leop.-Carol. **19**: Suppl. 1: 253. 1843.

Baccharis lucida Meyen, Walp. Nov. Act. Acad. Caes. Leop.-Carol. **19**: Suppl. 1: 253. 1843, as synonym.

Possibly a distinct species, but differing from typical *Lepidophyllum phylicaeforme* (Meyen) Hieron. only, so far as known, in its glabrous and resinous (not tomentose) stem and branches. *R. E. Fries* 675, from Argentina, distributed as *L. phylicaeforme*, represents this variety. I have elsewhere[2] discussed the identity of *Lepidophyllum phylicaeforme* and *Parastrephia ericoides* Nutt.

Solidago auriculata Shuttleworth, nom. nov.

Solidago amplexicaulis Torr. & Gray, Fl. N. Amer. **2**: 218. 1842. Not *S. amplexicaulis* Martens, Bull. Acad. Brux. **8**: 67. 1841.

Solidago auriculata Shuttl., A. Gray, Syn. Fl. N. Amer. 1^2: 153. 1884, as synonym.

Aster amplexicaulis Kuntze, Rev. Gen. Pl. **1**: 317. 1891. Not *A. amplexicaulis* Lam. 1783, or Michx. 1803, or Muhl. 1803.

Torrey and Gray, when describing this species, did so under the name "*S. amplexicaulis* (Martens?)," stating that they attributed the name to the plant described merely on the basis of its appropriateness, not having seen the original publication of Martens. Chapman[3] in 1860 used the same name, with the authority Torrey & Gray, and Gray in his later writings continued to do so, after it had been ascertained that Martens' name referred to *S. riddellii* Frank. The appropriate name *S. auriculata*, under which the species was distributed by Shuttleworth (according to Gray), is here given proper publication.

Solidago graminea (Woot. & Standl.) Blake.

Petradoria graminea Woot. & Standl., Contr. U. S. Nat. Herb. **16**: 183. 1913.

A species closely related to *Solidago petradoria* Blake (*S. pumila* (Nutt.) Torr. & Gray, not Crantz; *Petradoria pumila* Greene), but with very much

[2] Contr. U. S. Nat. Herb. **26**: 232. 1930.

[3] Fl. So. U. S. ed. 1. 213. 1860.

narrower leaves. Originally described from northwestern New Mexico, it has also been found in the Kaibab National Forest in northern Arizona (specimens collected 13 Aug. 1926, received through Dr. C. D. Marsh; in U. S. Nat. Herb.) and about 7½ miles south of Scipio, Millard County, Utah, alt. 1650 meters, 20 June 1930 (*G. D. Pickford* 28; herb. U. S. Forest Service).

Aster pantotrichus Blake, nom. nov.

Aster missouriensis Britton in Britton & Brown, Ill. Fl. 3: 378. *f.* 3794. 1898. Not *A. missuriensis* (sic) Kuntze, Rev. Gen. Pl. 1: 318. 1891. (Based on *Solidago missouriensis* Nutt.)

Aster pantotrichus var. **thyrsoideus** (A. Gray) Blake.

Aster diffusus var. *thysoideus* A. Gray, Syn. Fl. N. Amer. 1[2]: 187. 1884.
Aster lateriflorus var. *thyrsoideus* Sheldon, Bull. Torrey Club 20: 286. 1893.

As the name *Aster missouriensis* Britton must be abandoned owing to the previous use of the same name by Kuntze, and as Gray's varietal name *thyrsoideus* is ineligible for raising to specific rank because of *Aster thyrsodeus* (E. Meyer) Kuntze,[4] it is necessary to provide the species with a new name.

Erigeron phoenicodontus Blake, s p.nov.

Perennis caespitosus ubique dense cinereo-strigosus, involucris dense breviterque hirsutis exceptis; folia basalia anguste oblanceolata acuta integra 1-nervia, petiolis base ampliatis albidis ciliatis, caulina parva linearia; caules simplices monocephali, capitulis mediocribus breviter pedunculatis; involucri paullum gradati phyllaria linearia, intima apice scariosa purpurea; radii ca. 40 albi parvi; achenia basi excepta glabra 10-nervia subteretia; pappus biseriatus, exteriore breviter setuloso.

Stems and leaves densely cinereous-strigose throughout, in small tufts from a few-branched, apparently deep and vertical cylindric root; fibrous bases of basal leaves persistent; stems 1–6 in a tuft, erect, simple, 1-headed, about 15 cm. high; basal leaves narrowly oblanceolate, 2.5–3.8 cm. long including the petioliform base, 2–3 mm. wide, acute, acuminate at base, entire, firm, 1-nerved, the base of the petiole somewhat enlarged, whitish, subscarious, ciliate, 3-nerved; stem leaves about 15, gradually reduced above, linear, the upper bracteiform and 3–6 mm. long; peduncles 1–15 mm. long; heads about 1.8 cm. wide; disk 1.3–1.5 cm. thick; involucre hemispheric, 4–5-seriate, slightly graduate, 5 mm. high, the phyllaries linear, acute to short-acuminate, densely hirsute with straight, mostly ascending hairs, the inmost phyllaries with green midline, whitish chartaceous margin, and scarious purple tips, the others with green midline and whitish margins; rays about 35–40, white, the tube sparsely pilose at apex with many-celled hairs, 2.5 mm. long, the lamina linear, tridenticulate, 4-nerved, 5 mm. long, 1.2 mm. wide; disk flowers very numerous, their corollas purplish above, sparsely pilosulous near middle, 4.5–5 mm. long (tube 1–1.5 mm., throat cylindric-funnelform, 3 mm., teeth 5, deltoid, papillose-crested, 0.5 mm. long); achenes of ray and disk similar, subterete, yellowish white, 9–10-nerved, glabrous except for a few bristles at extreme base, 2.3 mm. long; pappus of an outer series of minute setae about 0.3 mm. long and an inner series of about 35

[4] Rev. Gen. Pl. 1: 317. 1891. (Based on *Solidago thyrsoidea* E. Meyer.)

whitish barbellate bristles 4 mm. long; style appendages depressed-deltoid, obtuse, finely hispidulous.

MEXICO: Sides of steep dry ravines, in red gravelly soil, Rancho Colorado, District of Guerrero, State of Chihuahua, alt. 2200 m., 27 May 1929, *Ynes Mexia* 2569 (type no. 1,409,875, U. S. Nat. Herb.).

A well-marked species, perhaps nearest *Erigeron ervendbergii* A. Gray, but with a different habit, much denser pubescence, and decidedly larger heads.

Archibaccharis serratifolia var. **paniculata** (J. D. Sm.) Blake.

Diplostephium paniculatum J. D. Sm., Bot. Gaz. **23**: 8. 1897.

Hemibaccharis mucronata paniculata Blake, Contr. U. S. Nat. Herb. **20**: 551. 1924.

Archibaccharis mucronata paniculata Blake in Standl., Contr. U. S. Nat. Herb. **23**: 1509. 1926.

Archibaccharis mucronata var. *paniculata* Blake, Amer. Journ. Bot. **15**: 64. 1928.

I have recently shown,[5] that the name to be adopted for the species long known as *Baccharis mucronata* H. B. K. is *Archibaccharis serratifolia* (H.B.K.) Blake.

Pluchea salicifolia var. **canescens** (A. Gray) Blake.

Pluchea subdecurrens var. *canescens* A. Gray, Proc. Amer. Acad. **5**: 182. 1861.

Pluchea adnata canescens Blake in Standl., Contr. U. S. Nat. Herb. **23**: 1510. 1926.

Pluchea salicifolia var. **parvifolia** (A. Gray) Blake.

Pluchea subdecurrens var. *parvifolia* A. Gray, Proc. Amer. Acad. **5**: 160. 1861.

Pluchea adnata parvifolia Blake in Standl., Contr. U. S. Nat. Herb. **23**: 1510. 1926.

I have recently shown[6] that the name *Pluchea salicifolia* (Mill.) Blake, based on *Conyza salicifolia* Mill., must be used in place of *P. subdecurrens* Cass. and *P. adnata* (Humb. & Bonpl.) Mohr.

Gnaphalium paramorum Blake, sp. nov.

Herba perennis caespitosa parva ubique dense et compacte sericeo tomentosa haud stolonifera; folia basalia rosulata subspathulata obtusa 1-nervia 1.5 cm. longa 5 mm. lata, caulina ca. 6–8 similia minora; capitula ca. 48-flora numerosa sessilia in glomerulum terminalem 1.5–2.5 cm. crassum aggregata; involucri ca. 5 mm. alti gradati phyllaria linearia apice rotundata v. obtusa basi castanea apice subaequali lactea opaca; flores fem. ca. 39, hermaph. ca. 9.

Stems few, ascending, 6–17 cm. high; basal leaves numerous, crowded, spreading, 1.2–2 cm. long, 2.5–6 mm. wide; stem leaves 1–2 cm. long, 2.5–4

[5] Contr. U. S. Nat. Herb. **26**: 236. 1930.

[6] Contr. U. S. Nat. Herb. **26**: 237. 1930.

mm. wide, sessile, not decurrent, the lower spatulate, the upper linear-oblong, all obtuse, not appendaged; glomerule involucrate by a few lanceolate or ovate leaves about 7 mm. long; phyllaries 0.6–0.8 mm. wide, somewhat woolly below middle, the tips radiating in age; pistillate corollas 2 mm. long, their achenes subfusiform, 1 mm. long, glabrous, the pappus of about 20 minutely roughened bristles 2.8 mm. long, not thickened upwardly, lightly connate in a ring at extreme base; disk corollas apparently brownish above, slender-funnelform, 2.8 mm. long, 5-toothed, the style shortly bifid with truncate hispidulous tips, the pappus bristles about 25, 2.8 mm. long, finely hispidulous, connate at base, apparently deciduous in groups.

VENEZUELA: Páramo Quirorá, Mérida, alt. 2900 m., 24 Feb. 1922, *A. Jahn* 883 (type no. 1,186,590, U. S. Nat. Herb.); Páramo del Jabón, Trujillo, alt. 3500 m., 2 Oct. 1910, *Jahn* 22.

An interesting plant, possessing much the appearance of *Gnaphalium antennarioides* DC. (*Elychrysum gnaphalioides* H. B. K., *Antennaria monoica* Wedd., *Leontopodium gnaphalioides* Hieron.), and probably most closely related to that species. In *G. antennarioides* the plant is stoloniferous and the leaves are longer, glabrescent and green or greenish above, and tipped with a brown callous point.

Gnaphalium greenmanii Blake, nom. nov.

Gnaphalium linearifolium Greenm., Proc. Amer. Acad. 32: 308. 1897. Not *G. linearifolium* (Wedd.) French. 1892.

Clibadium psilogynum Blake, sp. nov.

Sect. *Euclibadii;* caulis strigosus; folia ovata opposita acuminata basi rotundata serrata triplinervia supra aspera subtus strigosa, petiolo tenui ca. 1.5 cm. longo; panicula terminalis densa; capitula mediocria sessilia; phyllaria 5–6 orbiculari-ovata obtusa v. minute apiculata sparse strigillosa sursum ciliolata 7–13-nervia; flores fem. 4, hermaph. 7–8; ovaria glaberrima.

Presumably a shrub; stem slender, terete, rather densely strigose with slightly tuberculate-based hairs; internodes 5.5–9 cm. long; petioles strigose, naked, 8–16 mm. long; blades 7.5–12 cm. long, 4–5 cm. wide, usually falcately acuminate, papery, dull green both sides, above evenly strigose or antrorsely short-hispid with tuberculate-based hairs, beneath evenly strigose on veins and surface, densely so on costa, serrate nearly throughout with small acute teeth (about 1 mm. long, 3–6 mm. apart), tripli- or subquintuplinerved, slightly prominulous-reticulate beneath; panicle dense, many-headed, 3 cm. wide, its hair looser than those of stem, mostly erectish; heads obovoid-oblong, about 8 mm. high (including corollas but excluding stamens), 4 mm. thick; involucre 6 mm. high; phyllaries 4.5–5 mm. long, 4–5 mm. wide; pistillate flowers 4, of which 3 are paleate, with pales similar to the inner phyllaries, the corollas white, glabrous, 4-toothed, 3 mm. long, the ovaries strictly glabrous, obovoid, 2 mm. long; hermaphrodite flowers 7–8, of which 1 is sometimes provided with a small pale, their corollas white, hispidulous on teeth, 3.8 mm. long (tube 1 mm., throat campanulate, 2 mm., teeth deltoid, 0.8 mm.), their ovaries linear-prismatic, 3 mm. long, glabrous or with a very few hairs at apex.

PERU: Marcapata Valley, near Chilechile, Prov. Quispicanchi, Dept. Cuzco, 21 Feb. 1929, *A. Weberbauer* 7864 (type no. 1,442,738, U. S. Nat. Herb.).

Related to *C. leiocarpum* Steetz and *C. anceps* Greenm., and distinguished by its combination of strigose branches and crowded but not glomerate heads.

Rudbeckia californica var. **glauca** Blake, var. nov.

Folia glauca margine tuberculato-hispidula ceterum glabra; phyllaria margine hispidula ceterum glabra vel subglabra.

OREGON: Just west of Cornutt, Douglas Co., 26 July 1918, *W. E. Lawrence* 2102; Rogue River Valley, 12 July 1887, *T. Howell;* near Wimmer, Jackson Co., 22 July 1892, *E. W. Hammond* 207; upland marshes near Waldo, 5 June 1884, *T. Howell.*

CALIFORNIA: One clump along brook, about 20 miles NE. of Crescent City, Del Norte Co., on road to Grants Pass, 30 Aug. 1927, *S. F. Blake* 10377 (type no. 1,488,180, U. S. Nat. Herb.); eight miles south of Waldo (Oregon), Del Norte Co., 14 June 1904, *C. V. Piper* 6103; Mt. Eddy, Siskiyou Co., 30 Aug. 1912, *A. Eastwood* 2047; same locality, 1 Sept. 1913, *L. E. Smith* 557; same locality, alt. 1675 m., 8 Sept. 1903, *E. B. Copeland* (distr. C. F. Baker 3862); railroad to Castle Lake, Siskiyou Co., 4 July 1913, *L. E. Smith.*

Typical *Rudbeckia californica* A. Gray, with the leaves green and rather evenly pubescent on both surfaces, especially beneath, with soft or rough hairs, and with dorsally pubescent phyllaries, is confined, so far as indicated by the material in the U. S. National Herbarium, to the Sierra Nevada of California from Tulare to Eldorado Counties. The form occurring on Mt. Eddy and in the Siskiyous appears very distinct in its usually glaucous and thicker leaves which are hispidulous on margin but glabrous on the surface, but in the absence of any observed distinctions in other characters, beyond a similar difference in the pubescence of the phyllaries, it does not seem to merit specific rank. In two sheets of the northern plant (*Hammond* 207 and *Lawrence* 2102) the leaves are sparsely strigose or hirsute on the costa beneath or on both sides and not obviously glaucous. All the specimens from Siskiyou County have somewhat thinner, coarsely dentate stem leaves; those of the other specimens cited, including the type, are thicker and entire or subentire.

Wedelia ambigens Blake, sp. nov.

Herbacea (?); caulis obtuse quadrangularis 4-sulcatus in angulis strigillosus; folia opposita ovata falcato-acuminata basi late rotundata triplinervia supra asperula subtus submolliter griseo-pubescentia crenato-serrata, petiolo tenui; capitula mediocria flava radiata pauca irregulariter cymosa; involucri ca. 7 mm. alti gradati phyllaria basi pallida indurata, apice herbaceo lanceolato acuminato squarroso subaequali; radii ca. 11, ca. 1.5 cm. longi; paleae rigide acuminatae; pappus coroniformis non stipitatus.

Sometimes subscandent; stem pithy, about 3 mm. thick; internodes usually 7–16 cm. long; petioles strigose or strigillose and somewhat hispid, 1–3.5 cm. long; blades 9.5–15 cm. long, 5–8.5 cm. wide, usually unequal at base, crenate-serrate (teeth small, acute, usually 1.5–4 mm. apart), thin, above deep green, antrorse-hispid with slightly tuberculate-based hairs and minutely tuberculate-hispidulous, beneath paler green or in youth griseous, rather densely hirsute-pilose with antrorse or spreading hairs (denser and longer along the veins) and sessile-glandular, triplinerved 5–10 mm. above base (sometimes with 2–3 pairs of weaker veins below) and loosely prominu-

lous-reticulate beneath; cymes terminating stems and branches, irregular, 3–4-headed, the peduncles normally 1-flowered, 3–7.5 cm. long, densely strigose or erectish-pubescent, usually naked, slender; heads 2.5–3.5 cm. wide; disk about 6–8 mm. high, 1–1.2 cm. thick; involucre about 3-seriate, slightly graduate or subequal, the phyllaries lanceolate to lance-ovate, about 2 mm. wide, densely pubescent outside with subappressed hairs, the base indurated, 3–5-vittate, the squarrose herbaceous apex subequal or somewhat shorter; rays about 11, yellow, pistillate, the tube 1 mm. long, the lamina narrowly oblong, 2-dentate, sparsely hirsutulous at base and along nerves of back, 11–13-nerved, about 15 mm. long, 3–5 mm. wide; disk flowers numerous, their corrollas yellow, hispidulous above, about 6 mm. long (tube 1.5 mm., throat funnelform, 3 mm., teeth elongate-triangular, acuminate, 1.6-1.8 mm. long); receptacle flattish; pales of medium breadth, densely and minutely hispidulous on keel and above, ciliolate and sparsely hispid on margin above, firm, gradually narrowed into a stiff acuminate tip, about 5 mm. long; ray achenes plumply trigonous, minutely hispidulous at the subtruncate apex, 2 mm. long, 1.6 mm. wide, their pappus a thick denticulate crown about 0.3 mm. high; disk achenes plump, compressed, obovoid, broad-based, minutely hispidulous and obscurely biauriculate at the subtruncate apex, 2.3 mm. long, 1.8 mm. wide, their pappus a thick denticulate crown 0.3 mm. high; style branches tipped with subulate acuminate hispidulous appendages about 0.4 mm. long.

VENEZUELA: Hills, vicinity of Cristobal Colon, 5 Jan.–22 Feb. 1923, *W. E. Broadway* 149 (type no. 1,188,477, U. S. Nat. Herb.), 591; Chacaito Gorge, around Caracas, 24 April 1921, alt. 800–1000 m., *H. Pittier* 9487; forming thicket in damp shady places, descent from Valera to Motatan Bridge, on road to Carvajal, Dept. Trujillo, 21 Nov. 1922, *Pittier* 10754.

Like *W. penninervia*, to which it is not remotely related, this species has much the aspect of *Wulffia*. It is readily distinguished from *W. penninervia* by its triplinerved leaves and different stem pubescence. From *W. latifolia* DC., of Colombia, with which *W. heterophylla* and *W. symmetrica* Rusby are probably identical, it differs in stem, involucre, pales, pappus, and pubescence.

Wedelia penninervia Blake, sp. nov.

Herba (?); caulis quadrangularis 4-sulcatus dense breviterque patenti-hirsutus; folia opposita ovata majuscula acuminata base late rotundata crenato-serrata supra asperula subtus dense moliterque griseopilosa, petiolo nudo ca. 2.5 cm. longo; capitula mediocria apice caulis ca. 5–6 irregulariter cymosa pedunculata; involucri ca. 3-seriati paullum gradati ca. 7 mm. alti appressi phyllaria late ovata acuminata dense subappresse pubescentia subherbacea; radii ca. 14, 9 mm. longa; paleae rigide acuminatae; pappus coroniformis non stipitatus.

Stem ca. 3 mm. thick, obtusely 4-angled, usually deeply 4-sulcate, pithy, densely and rather harshly short-hirsute with spreading hairs about 0.7 mm. long, glabrescent below; internodes mostly 4–6 cm. long, sometimes greatly elongated; petioles pubescent like the stem, 1.5–2.8 cm. long; blades 10–17.5 cm. long, 4.5–7.5 cm. wide, falcate-acuminate, broadly rounded and usually slightly unequal at base, crenate-serrate nearly throughout (teeth acute, small, mostly 2–5 mm. apart), subchartaceous, above deep green, evenly antrorse-hirsute on surface, more densely so on veins, with minutely tubercu-

late-based hairs, beneath densely and uniformly pilose with antrorse or erect minutely tuberculate-based hairs, featherveined, the ca. 8–10 pairs of chief veins and the secondaries impressed above, prominulous-reticulate beneath; pedicels densely pubescent like the stem, at first only 1.5–3 cm. long, at length 3.5–6 cm.; heads hemispheric-campanulate, in anthesis 2.5 cm. wide; disk 8–9 mm. high, 1.5–1.8 cm. thick; phyllaries somewhat glabrescent below, 2.5–3.8 mm. wide, slightly indurate at base; rays about 14, yellow, pistillate, the tube obscurely puberulous, 1.5 mm. long, the lamina elliptic-oblong, unequally 2-dentate, puberulous on back and hirsutulous on the 2 chief nerves, 9–11-nerved, 9 mm. long, 3.5 mm. wide; disk flowers numerous, yellow, their corollas hispidulous above, 6 mm. long (tube 1.7 mm., throat cylindrid-funnelform, 3.1 mm., teeth triangular-ovate, 1.2 mm. long); pales hispidulous on keel, ciliolate above, gradually tapering into the stiff subulate erect tip, about 7 mm. long; ray achenes plumply trigonous, 2.5 mm. long, 2 mm. wide, puberulous on the subtruncate apex, auriculate on the 2 outer angles at apex, the pappus at first of 3 toothlike awns about 0.5 mm. long and a lacerate crown of connate squamellae about half as long, at maturity reduced to a denticulate crown about 0.3 mm. high; disk achenes plumply quadrangular, 3 mm. long, 2 mm. wide, puberulous on the truncate-rounded apex, their pappus a lacerate crown about 0.3 mm. high, about a third as broad as apex of achene; style branches tipped with a subulate acuminate appendage about 0.7 mm. long.

COLOMBIA: Thicket in quebrada, Cordillera Oriental, east of Neiva, Dept. Huila, alt. 800–1000 m., 31 July 1917, *H. H. Rusby & F. W. Pennell* 410 (type in herb. N. Y. Bot. Gard.; photog. and fragm., U. S. Nat. Herb.); in quebrada, same locality and date, alt. 700–1500 m., *Rusby & Pennell* 513 (N. Y. Bot. Gard.).

A plant suggestive of some forms of *Wulffia* in appearance, and distinguished from related species of its region by its involucre and its penninerved leaves, which are densely and softly pubescent beneath. The smaller leaves are occasionally somewhat triplinerved through the enlargement of about the third pair of veins above the base. The type collection is described as a shrubby vine, the other collection as an herb. The plant is probably herbaceous or suffrutescent and occasionally leaning or subscandent.

Wedelia trilobata var. **pilosissima** Blake, var. nov.

Planta habitu, foliis trilobatis, pedunculis brevibus, etc., formae typicae *W. trilobatae* (L.) Hitchc. valde similis, differt caule densissime patenti-piloso pilis ca. 2 mm. longis.

PERU: Pebas, July 1929, *L. Williams* 1913 (type no. 1,444,044, U. S. Nat. Herb.); La Victoria, Aug.–Sept. 1929, *Williams* 2587; Caballo-Cocha, Aug. 1929, *Williams* 2313.

All the localities cited for this variety are on the Amazon River in the Department of Loreto.

Wedelia brasiliensis var. **villosa** (Baker) Blake.

Wedelia paludosa var. *villosa* Baker in Mart., Fl. Bras. 6[3]: 181. 1884.

A specimen without data collected in 1921 by the Mulford Biological Exploration of the Amazon Basin (no. 2172) agrees with Baker's description

of this variety. I have elsewhere shown[7] that the name *Wedelia paludosa* DC. must be replaced by *W. brasiliensis* (Spreng.) Blake, based on *Acmella brasilensis* Spreng.

Helianthus anomalus Blake, sp. nov.

Herba, basi invisa; caulis albidus ramosus sparse breviterque tuberculato-hispida; folia alterna ovata v. lanceolato-ovate obtusa v. acuta basi cuneata integra 3-nervia crassa subcoriacea laete viridia tuberculato-hispidula, petiolo tenui longo; capitula 1–2 majuscula; involucri 2-seriati ca. 2 cm. alti gradati phyllaria lineari-lanceolata acuminata sparse tuberculato-hispida ad basim subciliata erecta discum superantia; radii flavi ca. 10 ca. 2 cm. longi; corollae disci tenues, dentibus purpureis; achenia disci appresse pilosa; pappus e aristis ca. 18 inaequalibus 1.2–4.5 mm. longis caducissimis compositus.

Plant 30 cm. high and more; stem stoutish, 4 mm. thick, leafy, rather sparsely short-hispid with white, tuberculate-based, upcurved conic hairs about 1 mm. long; internodes mostly 1.5–3 cm. long; petioles narrowly cuneate-margined at apex, 1.2–3.3 cm. long, pubescent like the stem; blades 4.5–8 cm. long, 1.2–3.2 cm. wide, cuneate or cuneate-rounded at base and then shortly and narrowly decurrent on apex of petiole, thick and rigid, evenly hispid or hispidulous on both surfaces with short conic tuberculate-based white hairs, those on the margin with extremely swollen bases; peduncles solitary at apex of stem and in the uppermost axils, 4–9 cm. long, slender, pubescent like the stem; heads about 5 cm. wide; disk hemispheric, about 1.5 cm. high. 1.5–2 cm. wide, smaller in reduced heads; involucre 1.7–2.7 cm. high, of about 16 linear-lanceolate acuminate herbaceous phyllaries, indurate at extreme base, 1-vittate, sparsely tuberculate-hispid and more or less definitely hispid-ciliate especially below, 1–2 mm. wide; rays yellow, 1.8–2.3 cm. long, 6–9 mm. wide, 11–13-nerved, emarginate; disk corollas stipitate-glandular and sparsely hispidulous on tube, finely hispidulous on base of throat and teeth, greenish white with purple teeth, 6.8–7.5 mm. long (tube 1.5–1.8 mm., throat cylindric-funnelform, 4.3–5.2 mm., teeth deltoid-ovate, 0.8 mm. long); pales scarious, hispidulous toward apex, usually 3-lobed, the lateral lobes merely small teeth, the median about 4 mm. long, acuminate, subulate-pointed, sometimes purplish-tinged at tip; ray achenes inane, their pappus much as in the disk; disk achenes oblong, plump, 4.5 mm. long, 1.8 mm. wide, mottled black and white, appressed-pilose with fulvous hairs; pappus of 2 slender hispidulous awns 4–4.5 mm. long and on each side between them about 6–8 similar unequal awns 1.2–3.5 mm. long, the whole caducous; style branches purplish, hispid dorsally, tipped with a linear-subulate obtusish hispidulous appendage about 0.8 mm. long.

UTAH: Desert south of Hawksville, Wayne Co., alt. 1370 m., 5 July 1930, *W. D. Stanton* 328 (type no. 1,487,743, U. S. Nat. Herb.; dupl. in herb. Brigham Young University, no. 4806).

A very interesting plant, amply distinct in characters of foliage and involucre, and remarkably set off from all other known species by its pappus, which carries to an extreme the tendency found in various other species to produce additional squamellae between the two constantly present marginal awns. Further specimens showing the base of the plant are much to be desired.

[7] Contr. U. S. Nat. Herb. **26**: 250. 1930.

Enceliopsis covillei (A. Nels.) Blake.

Helianthella argophylla Coville, Contr. U. S. Nat. Herb. **4**: 132. 1893, as to descr. only. (Not *H. argophylla* (D. C. Eaton) A. Gray.)
Encelia grandiflora Jones, Proc. Calif. Acad. II. **5**: 702. 1895. Not E. *grandiflora* (Benth.) Hemsl. 1881.
Helianthella covillei A. Nels., Bot. Gaz. **37**: 273. 1904.
Enceliopsis grandiflora A. Nels., Bot. Gaz. **47**: 433. 1909; Blake, Proc. Amer. Acad. **49**: 354. 1913.

Oyedaea oxylepis Blake, sp. nov.

Suffrutescens (?); Caulis strigosus; folia opposita elliptico-oblonga crenato-serrulata acuta basi cuneata penninervia supra aspera subtus hirsuto-pilosa ca. 8 cm. longa 3 cm. lata; capitula minuscula saepius solitaria terminalia breviter pedunculata; involucri 5–7 mm. alti subaequalis ca. 3-triseriati phyllaria ovato-lanceolata acuminata strigosa, apice herbaceo patente supra lepidoto-hispidulo.

Stem (above) slender, brownish, striatulate, subterete, densely strigose or erectish-hirsute with slightly tuberculate-based hairs and between them sordid-pilosulous; upper internodes 3–6 cm. long; petioles about 3 mm. long, pubescent like the stem; blades (4) 6–8.5 cm. long (1.5) 2–3.2 cm. wide, acute or acuminate, callous-tipped, above harshly pubescent with antrorse-curved hairs with persistent lepidote bases, antrorse-hirsute along costa, beneath evenly but not densely hirsute-pilose with spreading or antrorse-curved hairs and gland-dotted, crenate-serrulate above the entire cuneate base with about 5–9 pairs of apiculate depressed teeth (3–8 mm. apart). firm-herbaceous, the principal lateral veins about 6–12 pairs, with the minor veins prominulous-reticulate beneath; peduncles terminal in forks of stem and branches, 1(–2)-headed, naked or 1-bracteate, 1–2.5 cm. long, pubescent like the stem; heads 2 cm. wide; disk (as pressed) 9–10 mm. high, 7–10 mm. thick; involucre slightly obgraduate or subequal, the 2 outer series of phyllaries lance-ovate, 2.5–3 mm. wide at base, strigose and strigillose, the somewhat longer herbaceous apex spreading at least in age, lepidote-hispidulous above, the innermost series with short bluntish subherbaceous tips; rays about 8, yellow, neutral, the tube 2.5 mm. long, sparsely hirsutulous, the lamina narrowly oblong, emarginate, with 4 principal nerves, 11 mm. long, 3 mm. wide; disk corollas not very numerous, yellow, essentially glabrous except on teeth, 6.5 mm. long (tube 2.3 mm., throat slender-funnelform, 3.5 mm., teeth ovate, 0.7 mm. long, sparsely hispidulous at apex, papillose on margin within); pales narrow, acute, densely hirsutulous at apex, about 6 mm. long; disk achenes (submature) oblong, compressed, blackish, 3 mm. long, sparsely strigose on the faces, densely hispidulous-ciliolate on margin, very narrowly winged on one margin, scarcely at all on other; pappus of 2 slender fragile hispidulous awns 2.5–3 mm. long and on each side between them about 4–6 short awns, connate at base, mostly about 1.1 mm. long, the lateral ones sometimes up to 1.5 mm. long.

PERU: "Weed" in forest, San Roque, Dept. San Martín, alt. 1350–1500 m., 7 Jan. 1930, *Llewelyn Williams* 6992 (type No. 629616, herb. Field. Mus.; dupl. No. 1,495,543, U. S. Nat. Herb.).

A member of a group of half a dozen closely related Andean species, of which the closest is probably the Bolivian *O. rusbyi* Blake. In the latter the heads

are numerous and the phyllaries have much shorter and relatively broader bluntish herbaceous tips.

Actinea helenioides (Rydb.) Blake.

Picradenia helenioides Rydb., Bull. Torrey Club **28**: 21. 1901.
Hymenoxys helenioides Cockerell, Bull. Torrey Club **31**: 481. 1904.
Dugaldia helenioides A. Nels. in Coult. & Nels., New Man. Bot. Rocky Mts. 562. 1909.

This species has continued to be known only from the type collection made at Sangre de Cristo Creek, south-central Colorado, alt. 2400–2700 m., 2 July 1900, by P. A. Rydberg and F. K. Vreeland (no. 5495). A considerable extension of range is shown by a specimen in the U. S. Forest Service herbarium collected on ridge running east from Castle Valley Ridge, about 5 miles southeast of Clearcreek, in the Manti Forest, Carbon Co., Utah, alt. 2930 m., 25 August 1914, by W. R. Chapline, Jr. (no. 80). Through the courtesy of Dr. E. D. Merrill, I have been able to compare with this specimen two sheets of the type collection in the herbarium of the New York Botanical Garden. In the original specimens the rays are not fully developed. Those of Mr. Chapline's plant have the lamina 1.8–2 cm. long and 4–6 mm. wide.

Dyssodia remota Blake, sp. nov.

Fruticulus diffusus; caulis obscure hirtellus ramosus; folia opposita pinnatipartita ca. 2.5 cm. longa, segmentis 5 lineari-ellipticis utrinque acutis glanduloso-crenatis glabris subcoriaceis; capitula terminalia solitaria mediocria flava radiata breviter pedunculata; involucri primarii 1 cm. alti 2-seriati aequalis phyllaria oblonga obtusa ad apicem ciliolata libera glanduloso-notata, calyculo e. phyllariis ca. 5 parvis subulatis sistente praediti; pappi paleae ca. 15, quaque in aristas 2–4 dissecta.

"Half-trailing" undershrub, several-stemmed, about 30 cm. long; stems oppositely branched; branches slender, obscurely hirtellous somewhat in lines, leafy; internodes 0.4–3.5 cm. long; petioles narrowly margined, 3–6 mm. long, glabrous, bearing toward base 1–3 pairs of setaceous lobes 2.5 mm. long or less; blades ovate in outline, 1–3.3 cm. long, 1–1.8 cm. wide, divided to the narrowly winged rachis, the leaflets 3–5, the lateral 5–11 mm. long, 1–2.5 mm. wide, the terminal 0.8–2 5 cm. long, 2–4 mm. wide, all sessile but usually contracted at base, crenate with 2–4 pairs of very rounded teeth, a round yellowish gland in each notch; peduncles 1–1.5 cm. long, slender, glabrous; heads about 2–3 cm. wide; disk campanulate, 14 mm. high, 10 mm. thick; involucre double, the outer of about 5 narrowly subulate phyllaries 3–5.5 mm. long, ciliolate, sometimes with 1 or 2 linear-lanceolate lobes toward base, the inner of about 9 equal 2-seriate phyllaries, these oblong, obtuse (the outer 3 mm. wide, the inner 4.5 mm.), ciliolate above, otherwise glabrous, erose below, substramineous, with indurated and thickened extreme base, 1-ribbed, finely several-vittate, bearing usually a pair of subbasal linear oil glands and 1 or 2 shorter subterminal ones; receptacle flat; rays about 5, yellow, fertile, the tube 4 mm. long, puberulous, the lamina elliptic, entire or 2-denticulate, 7–9-nerved, 7.5 mm. long, 3 mm. wide; disk flowers about 38, their corollas yellow, cylindric-funnelform, puberulous near middle and on teeth, 7 mm. long (tube 2.8 mm., throat 2.8 mm., teeth triangular, 1.4 mm.

long); achenes of ray and disk similar, linear-cylindric, subterete or somewhat flattened, 4 mm. long, densely hirsutulous; pappus 6 mm. long, straw-color, 1-seriate, of about 15 paleae dissected nearly to base into 2–4 slender hispidulous bristles, the lateral bristles somewhat shorter than the inner; style branches with short deltoid obtusish subglabrous appendages.

PERU: Half-trailing on grassy canyon ledges or slopes, Llata, Dept. Huanuco, alt. 2135 m., 21 Aug. 1922, *Macbride & Featherstone* 2241 (type no. 518725, herb. Field Mus.; dupl. no. 1,186,055, U. S. Nat. Herb.).

Nearest *Dyssodia jelskii* Hieron., also of Peru, which is described as having cuneate-obovate merely dentate leaves and outer phyllaries (bracteoles) equalling the inner.

Cirsium rhothophilum Blake, nom. nov.

Carduus maritima (sic) Elmer, Bot. Gaz. **39**: 45. 1905.
Cirsium maritimum Petrak, Beiheft. Bot. Centralbl. **35**: Abt. **2**: 288. 1917. Not *Cirsium maritimum* Makino, Bot. Mag. Tokyo **24**: 249. 1910.

Petrak's reason for transferring Elmer's name to *Cirsium*, when at the same time he cited an earlier use of the name *Cirsium maritimum* by Makino for a new species described from Japan, is not obvious. At any rate, this very distinct species, known only from the type locality at Surf, Santa Barbara County, California, must receive a new name. The one here given (from *ῥόθος*, *the dash of waves*) refers to its habitat on sand dunes on the seacoast.

BOTANY.—*The genus* Lozanella.[1]

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Lozanella, a genus of Ulmaceae of the tribe Celtidoideae, was established by Greenman in 1905 and to it was referred a single species, *L. trematoides*, proposed at the same time and based upon a Pringle collection from Hidalgo, Mexico. Three years previously, however, Donnell Smith had described from Costa Rican material a species in the genus *Trema*, *T. enantiophylla*, which clearly is identical with *Lozanella trematoides*.

In the course of studies of tropical American Urticaceae which the senior author has been making, several specimens have been observed in unidentified material referred to that family which, though evidently representing a single genus, did not belong to Urticaceae. Comparison of these specimens with type material of *Lozanella trematoides* and *Trema enantiophylla* deposited in the National Herbarium shows that they represent two species of *Lozanella*, one the species described by Donnell Smith and by Greenman, the other new.

[1] Published by permission of the Secretary of the Smithsonian Institution. Received June 1, 1931.